

### **What is claimed is:**

**[Claim 1]** 1. A device (50) for scavenging tainted escape gas (26) released into the personal breathing space (32, 35) of a health care provider (38, 29) while performing a medical procedure on a patient (20) receiving a gaseous analgesia or anesthetic, said device (50) comprising:

a suction arrangement (52) suspendable from a patient's nasal mask (40) used for administering gaseous analgesia or anesthetic to a patient;

said suction arrangement (52) having a suction inlet (54) positionable proximate the patient's mouth (24) for scavenging tainted escape gas released into the personal breathing space (32, 35) of a health care provider (38, 29) when the health care provider is positioned adjacent the patient (20); and

said suction arrangement (52) further comprising an exhaust outlet (56) interconnectable with a vacuum source (46) for instituting tainted escape gas scavenging proximate the patient's face for the benefit of the health care provider by limiting exposure of the health care provider to tainted escape gas (26).

**[Claim 2]** 2. The device as recited in claim 1, further comprising:

an adjustable interconnection (58) configured to mount said suction arrangement (52) to the patient's nasal mask (40), said adjustable interconnection (58) enabling variable positioning of said suction inlet (54) relative to the patient's mouth (24).

**[Claim 3]** 3. The device as recited in claim 1, further comprising:

an adjustable interconnection (58) mounting said suction arrangement (52) upon the patient's nasal mask (40), said adjustable interconnection (58) enabling variable positioning of said suction inlet (54) relative to the patient's mouth (24).

**[Claim 4]** 4. The device as recited in claim 3, wherein said mounting of said suction arrangement (52) upon the patient's nasal mask (40) is an

exclusive point-of-suspension (62) of said suction arrangement (52) below the nose of the patient (20).

**[Claim 5]** 5. The device as recited in claim 3, wherein said suction arrangement (52) and said mounting (58) together establish a cantilever suspension (60) of said suction inlet (54) below the nose of the patient (20).

**[Claim 6]** 6. The device as recited in claim 5, wherein said cantilever suspension (60) establishes a clearance space (64) proximate the patients mouth (24) for facilitating procedures conducted adjacent to and inside the patient's mouth by the health care provider (38, 39).

**[Claim 7]** 7. The device as recited in claim 3, wherein said mounting (58) facilitates pivotation of said suction arrangement (52) about an axis (66) oriented substantially parallel to a face-forward direction of said patient's nasal mask when fitted upon the patient.

**[Claim 8]** 8. The device as recited in claim 7, wherein said mounting (58) is secured in an aperture (42) provided in said patient's nasal mask (40), said mounting being rotatable in said aperture (42) for facilitating pivotation of said suction arrangement (52) about an axis (66) oriented substantially parallel to the face-forward direction of said patient's nasal mask.

**[Claim 9]** 9. The device as recited in claim 3, wherein said mounting (58) facilitates pivotation of said suction arrangement (52) about an axis (68) oriented transverse to a face-forward direction of said patient's nasal mask when fitted upon a patient.

**[Claim 10]** 10. The device as recited in claim 3, wherein said mounting (58) facilitates rotation of said suction arrangement (52) about an axis (68) oriented

transverse to a face-forward direction of said patient's nasal mask when fitted upon a patient.

**[Claim 11]** 11. The device as recited in claim 3, wherein said mounting (58) facilitates rotation of said suction arrangement (52) about an axis (68) oriented substantially perpendicular to a face-forward direction of said patient's nasal mask when fitted upon a patient.

**[Claim 12]** 12. The device as recited in claim 3, said suction arrangement further comprising:

an elongate tubular extension (70) secured at said mounting (58) and terminating at a distal end thereof in said suction inlet (54), said suction inlet (54) being suspended at a location above the patient's face with a clearance space therebetween.

**[Claim 13]** 13. The device as recited in claim 12, wherein said elongate tubular extension (70) comprises a substantially straight portion (72) and a remote curved portion (74) that are interconnected so that said suction inlet (54) is offset from a longitudinal axis (68) of said substantially straight portion (72).

**[Claim 14]** 14. The device as recited in claim 12, wherein said elongate tubular extension (70) comprises a curved portion (74) that offsets said suction inlet (54) from a central axis (68) of said elongate tubular extension at said mounting (58).

**[Claim 15]** 15. The device as recited in claim 13, wherein said curved portion (74) is at least partially constituted by a corrugated side wall that maintains an operator-set orientation until reset by an outside influence.

**[Claim 16]** 16. The device as recited in claim 12, wherein said elongate tubular extension (70) is clip-connected to said mounting (58) with an interference friction fit provided therebetween, said interference friction fit enabling variable operator orientation setting of said suction inlet (54) relative to said mounting (58), said setting being held under the influence of said interference friction fit until reorientation is effected by said operator.

**[Claim 17]** 17. The device as recited in claim 12, said suction inlet (54) further comprising:

an expanded mouth opening (82) and tapering portion (84) located upstream of said mouth opening (82) toward said elongate tubular extension (70).

**[Claim 18]** 18. The device as recited in claim 17, wherein said expanded mouth opening (82) is substantially hourglass shaped (90).

**[Claim 19]** 19. The device as recited in claim 17, wherein said expanded mouth opening (82) is substantially frusto-conically shaped (88).

**[Claim 20]** 20. A method for scavenging tainted escape gas (26) released into the personal breathing space (32, 35) of a health care provider (38, 39) while performing a medical procedure on a patient (20) receiving a gaseous analgesia or anesthetic, said method comprising:

suspending a suction arrangement (52) from a patient's nasal mask (40) used for administering gaseous analgesia or anesthetic to the patient;

positioning a suction inlet (54) of said suction arrangement (52) proximate the patient's mouth (24) for scavenging tainted escape gas released into the personal breathing space (32, 35) of a health care provider (38, 39) when the health care provider is positioned adjacent to the patient; and

interconnecting an exhaust outlet (56) of said suction arrangement (52) to a vacuum source (46) and instituting tainted escape gas scavenging

proximate the patient's face thereby benefiting the health care provider by limiting exposure of the health care provider to tainted escape gas.

**[Claim 21]** 21. The method as recited in claim 20, wherein said mounting of said suction arrangement (52) upon the patient's nasal mask (40) is an exclusive point-of-suspension (62) of said suction arrangement (52) below the nose of the patient.

**[Claim 22]** 22. The method as recited in claim 20, further comprising:  
utilizing an adjustable interconnection (58) configured to mount said suction arrangement (52) to the patient's nasal mask (40), said adjustable interconnection (58) enabling variable positioning of said suction inlet (54) relative to the patient's mouth (24).

**[Claim 23]** 23. The method as recited in claim 20, further comprising:  
adjusting the position of said suction inlet (54) to a side of the patient's mouth (24) thereby facilitating interference-free access thereto by the health care provider.

**[Claim 24]** 24. The method as recited in claim 20, further comprising:  
mounting said suction arrangement (52) in cantilever suspension (60) from the patient's nasal mask (40) thereby avoiding additional contact with the patient's face, at least below the nose of the patient, due to said scavenging of tainted escape gas.

**[Claim 25]** 25. The method as recited in claim 24, further comprising:  
establishing, via utilization of said cantilever suspension (60), a clearance space (64) proximate the patients mouth (24) for facilitating procedures adjacent and inside the patient's mouth (24) by the health care provider (38, 39).

**[Claim 26]** 26. A device (50) for scavenging tainted escape gas (26) released into the personal breathing space (32, 35) of a health care provider (38, 29) while performing a medical procedure on a patient (20) receiving a gaseous analgesia or anesthetic, said device (50) comprising:

a suction arrangement (52) comprising a suction means configured for being suspended from a patient's nasal mask (40) used for administering gaseous analgesia or anesthetic to a patient; said suction means having a suction inlet (54) configured to be positioned proximate the patient's mouth (24) for scavenging tainted escape gas released into the personal breathing space (32, 35) of a health care provider (38, 29) when the health care provider is positioned adjacent the patient (20); and said suction means further comprising an exhaust outlet (56) configured to be interconnected with a vacuum source (46) for instituting tainted escape gas scavenging proximate the patient's face for the benefit of the health care provider by limiting exposure of the health care provider to tainted escape gas (26).

**[Claim 27]** 27. The device as recited in claim 26, further comprising:

an adjustable interconnection (58) configured to mount said suction arrangement (52) to the patient's nasal mask (40), said adjustable interconnection (58) enabling variable positioning of said suction inlet (54) relative to the patient's mouth (24).

**[Claim 28]** 28. The device as recited in claim 26, further comprising:

an adjustable interconnection (58) mounting said suction arrangement (52) upon the patient's nasal mask (40), said adjustable interconnection (58) enabling variable positioning of said suction inlet (54) relative to the patient's mouth (24).

**[Claim 29]** 29. The device as recited in claim 28, wherein said mounting of said suction arrangement (52) upon the patient's nasal mask (40) is an

exclusive point-of-suspension (62) of said suction arrangement (52) below the nose of the patient (20).

**[Claim 30]** 30. The device as recited in claim 28, wherein said suction arrangement (52) and said mounting (58) together establish a cantilever suspension (60) of said suction inlet (54) below the nose of the patient (20).

**[Claim 31]** 31. The device as recited in claim 30, wherein said cantilever suspension (60) establishes a clearance space (64) proximate the patients mouth (24) for facilitating procedures conducted adjacent to and inside the patient's mouth by the health care provider (38, 39).

**[Claim 32]** 32. The device as recited in claim 28, wherein said mounting (58) facilitates pivotation of said suction arrangement (52) about an axis (66) oriented substantially parallel to a face-forward direction of said patient's nasal mask when fitted upon the patient.

**[Claim 33]** 33. The device as recited in claim 32, wherein said mounting (58) is secured in an aperture (42) provided in said patient's nasal mask (40), said mounting being rotatable in said aperture (42) for facilitating pivotation of said suction arrangement (52) about an axis (66) oriented substantially parallel to the face-forward direction of said patient's nasal mask.

**[Claim 34]** 34. The device as recited in claim 28, wherein said mounting (58) facilitates pivotation of said suction arrangement (52) about an axis (68) oriented transverse to a face-forward direction of said patient's nasal mask when fitted upon a patient.

**[Claim 35]** 35. The device as recited in claim 28, wherein said mounting (58) facilitates rotation of said suction arrangement (52) about an axis (68) oriented

transverse to a face-forward direction of said patient's nasal mask when fitted upon a patient.

**[Claim 36]** 36. The device as recited in claim 28, wherein said mounting (58) facilitates rotation of said suction arrangement (52) about an axis (68) oriented substantially perpendicular to a face-forward direction of said patient's nasal mask when fitted upon a patient.

**[Claim 37]** 37. The device as recited in claim 28, said suction arrangement further comprising:

an elongate tubular extension (70) secured at said mounting (58) and terminating at a distal end thereof in said suction inlet (54), said suction inlet (54) being suspended at a location above the patient's face with a clearance space therebetween.

**[Claim 38]** 38. The device as recited in claim 37, wherein said elongate tubular extension (70) comprises a substantially straight portion (72) and a remote curved portion (74) that are interconnected so that said suction inlet (54) is offset from a longitudinal axis (68) of said substantially straight portion (72).

**[Claim 39]** 39. The device as recited in claim 37, wherein said elongate tubular extension (70) comprises a curved portion (74) that offsets said suction inlet (54) from a central axis (68) of said elongate tubular extension at said mounting (58).

**[Claim 40]** 40. The device as recited in claim 38, wherein said curved portion (74) is at least partially constituted by a corrugated side wall that maintains an operator-set orientation until reset by an outside influence.



**[Claim 41]** 41. The device as recited in claim 37, wherein said elongate tubular extension (70) is clip-connected to said mounting (58) with an interference friction fit provided therebetween, said interference friction fit enabling variable operator orientation setting of said suction inlet (54) relative to said mounting (58), said setting being held under the influence of said interference friction fit until reorientation is effected by said operator.

**[Claim 42]** 42. The device as recited in claim 37, said suction inlet (54) further comprising:

an expanded mouth opening (82) and tapering portion (84) located upstream of said mouth opening (82) toward said elongate tubular extension (70).

**[Claim 43]** 43. The device as recited in claim 42, wherein said expanded mouth opening (82) is substantially hourglass shaped (90).

**[Claim 44]** 44. The device as recited in claim 42, wherein said expanded mouth opening (82) is substantially frusto-conically shaped (88).